

Earth's Materials and Changes

3-3 The student will demonstrate an understanding of Earth's composition and the changes that occur to the features of Earth's surface. (Earth Science)

3.3.7 Exemplify Earth materials that are used as fuel, as a resource for building materials, and as a medium for growing plants.

Taxonomy level: 2.2-B Understand Conceptual Knowledge

Previous/Future knowledge: In 1st grade (1-4.6), students gave examples of Earth materials used for building structures or for growing plants. In 5th grade (5-3.6), students will study the conservation of natural resources. In 7th grade (7-5.6), students will focus on the resources as renewable or nonrenewable. Students will further develop this concept in 8th grade (8-3.5) to include the importance of fossil fuels as Earth resources. Fuels are new Earth materials for this grade.

It is essential for students to know that Earth is rich in useful resources that can be used for various purposes:

<i>Fuels</i>	Earth materials come from inside Earth and are used as fuels. For example, fuels such as oil and coal can be burned to produce heat or made into gasoline to help run cars and other vehicles.
<i>Building structures</i>	Earth materials can be mined from Earth and used to make building blocks or other building materials. For example, granite, marble, and sandstone have been used to make blocks for homes and office buildings. The mineral calcite is used to make cement for building.
<i>Growing plants</i>	Earth materials can be used as a medium for growing plants. For example, soil is made up of weathered pieces of rocks, minerals, and humus which supply water, nutrients and support for growing plants. Different types of soil are needed depending upon the type of plants that need to grow in the soil.

It is not essential for students to know less common materials such as natural gas or propane for fuels, or peat moss or vermiculite as growing mediums for plants. Students do not need to identify or classify Earth resources as renewable or nonrenewable at this time.

Assessment Guidelines:

The objective of this indicator is to *exemplify* uses of Earth materials; therefore, the primary focus of assessment should be to give examples of uses for Earth materials as fuel, as building materials, and as a growing medium for plants. However, appropriate assessments should also require students to *identify* a resource that would meet one of the criteria.